Space Weather Forecast

Issued on Sunday 24 November 2024 at 00:47 Local

This forecast provides a four-day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Moderate Solar Activity likely with occasional R1 Radio Blackouts likely.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Moderate with two lower Moderate class flares. There are ten active regions on the visible disc, two of which is currently unnumbered. The most notable are the two regions in the southeast. The magnetic complexity of these regions currently difficult to ascertain due to viewing angle. The remaining spots on the disc are generally relatively small and simpler in complexity, with limited notable growth.

No Earth-directed CMEs (coronal mass ejections) were observed in available imagery.

Solar Wind / Geomagnetic Activity: Solar winds were background to slightly elevated at 360-430km/s. The Interplanetary Magnetic Field (IMF), Bt, was Weak to Moderate. The important north-south component was also Weak and variable in direction. Geomagnetic activity was Quiet to Unsettled (Kp1-3).

Energetic Particles / Solar Radiation: Solar radiation remained at background levels.

Four-Day Space Weather Forecast Summary

Solar Activity: Generally Moderate activity is expected, with occasional Moderate flares expected, and a slight chance of an isolated Strong flare.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs forecast. Current background to slightly-elevated solar winds may become enhanced at times early in the period due to a possible connection to faster solar winds. No other recurrent or forecast enhancement is then expected with winds expected to remain at generally background levels.

Geomagnetic activity is expected to remain at Quiet to Unsettled (kp1-3) levels through the period, with a chance of Active (kp4) intervals through Days 1 and 2 (24-25 Nov).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

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Geomagnetic Storms

Geomagnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	5	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X-Ray Flares

X-Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 (M Class)	Yes	60	60	60	60
Very Active	R3-R5 (X Class)	No	5	5	5	5

Solar Radiation Storms (High Energy Protons)

Radiation Storms Probability (Exceedance)	Level ($cm^{-2}sr^{-1}s^{-1}$)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	10	10
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and/or 50 MeV ≥ 10pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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